

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

United States Department of Agriculture
Bureau of Entomology and Plant Quarantine

A METAL AND GLASS INSECT CAGE

By C. E. Woodworth, Division of Truck Crop and Garden
Insect Investigations

In the search for a small, inexpensive observation cage that could be used for soil insects, the apparatus described herein was found. It is a modification of a cage developed by Prof. C. W. Woodworth, of the University of California, concerning which nothing has yet been published. It is here presented with the permission of Professor Woodworth in the thought that others may care to use it.

The cage consists of two microscope slides (1 by 3 inches) held apart by a set of channeled metal supports (fig. 1). These supports are made of sheet brass (0.007 inch thick) or sheet aluminum (0.011 inch thick). The side pieces are constructed (fig. 2) by bending a piece of the sheet metal, 3 inches long by $\frac{3}{16}$ inch plus the desired depth of the cage, into a U shape, the sides of the U being $\frac{3}{32}$ inch each. The bottom of the U is split back at each end, close to the sides, for a distance of $\frac{3}{32}$ inch. The section thus cut is bent outward to fit into the channel of the end supports. The end supports are made (fig. 2) of the same metal, $\frac{3}{4}$ inch long by $\frac{1}{2}$ inch plus the desired depth of the cage. The metal is bent in the shape of an M, widened at the bottom of the middle portion to the desired depth of the cage. One of the end supports is constructed without the final bend of one leg to make the assembly simple.

The cage is assembled by placing the two end pieces over the ends of a microscope slide. The sides are then placed in position so that the parts that were bent out rest in the channels of the end pieces. These metal parts are held in place by two rubber bands (the second for safety) placed in the channels around the cage. The second microscope slide is then slid into the fully bent end support and dropped into position. The glasses may be held securely in position by small metal clips or by a piece of thread wrapped around the cage. Several of the unclipped cages may be held together in a group by a thread wound around them and tied by slipping the end between the ends of the cages.

If an inert material is needed in the cage, as is the case with soil insects, a piece of cellucotton about 10 layers thick, cut 2- $\frac{3}{4}$ inches by $\frac{3}{4}$ inch, is found to be very satisfactory. One corner of the cellucotton may be cut to make room for the desired test material. About 2 cc. of distilled water is sufficient moisture for the cage. A moist chamber (a desiccator jar with water in the bottom) should be used to prevent excessive drying of the cage while in use.

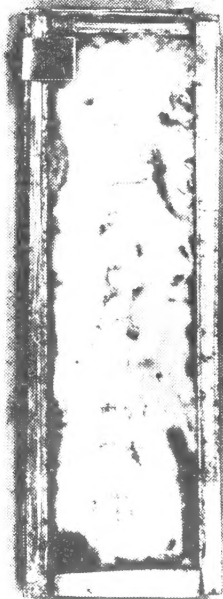


Figure 1. -- The cage assembled and in use.



CONSTRUCTION OF CHanneLED SUPPORTS

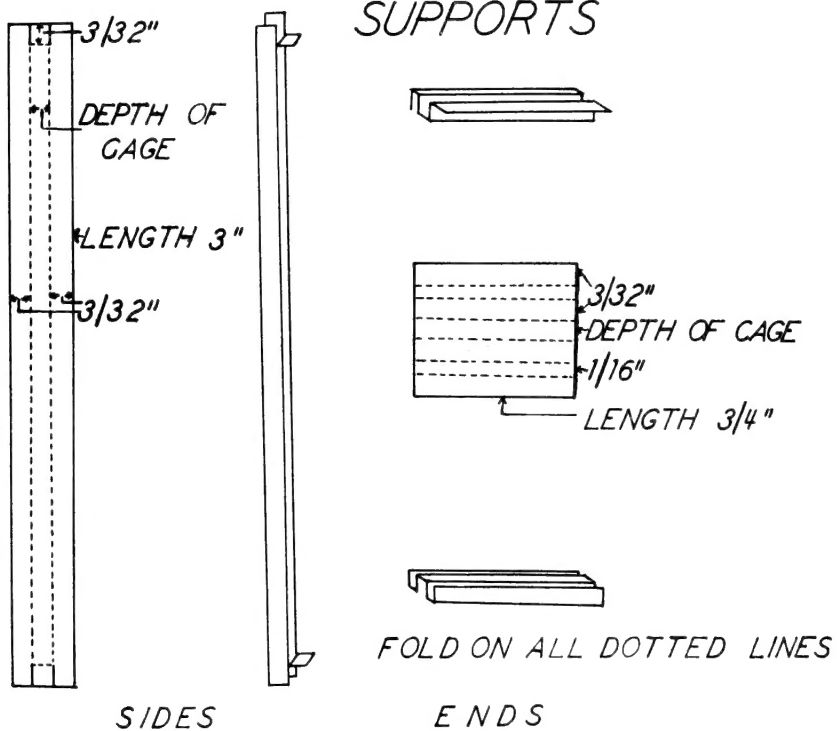


Figure 2. -- Details for construction of the cage.

